

PRACTICE TEST QUESTIONS

1. Complete the following ordered pair so that it satisfies both equations.

$$x + y = 8$$

$$2x - y = 10 \quad (?, 2)$$

2. Without graphing determine how many solutions there are to the following system of equations. Show your work and fully explain your answer.

$$2x + 5y = 10$$

$$3x + y = 6$$

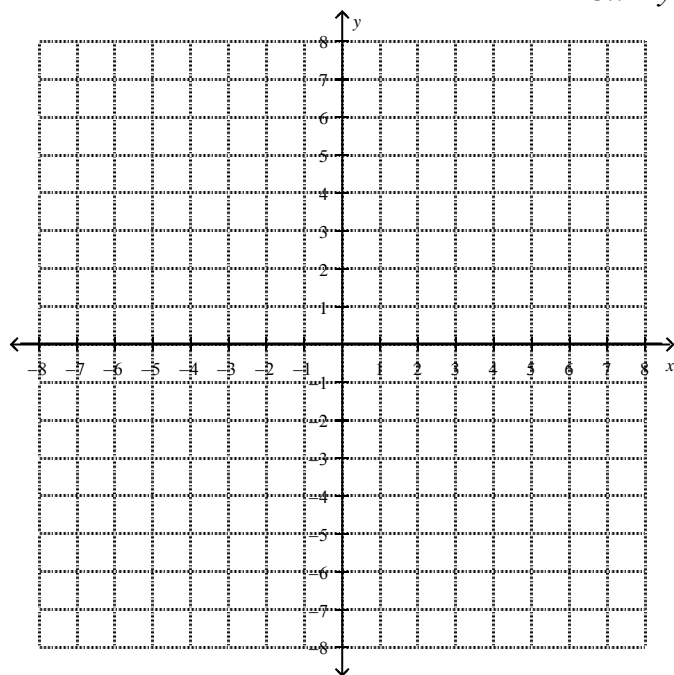
3. Graph the following linear system using the methods stated below each equation.

a) *x and y intercept method.*

$$6x + 6y = 24$$

b) *point slope method*

$$5x - y - 8 = 0$$



- c) State the solution(s) to the system of equations.

4. Does the ordered pair (3,5) identify the point of intersection for the following system of equations? Show your work and explain your answer.

$$3x + 2y = 19$$

$$5x - 2y = 5$$

5. Solve the following linear system by **substitution**. Check your answer.

$$3x + y - 5 = 0$$

$$x - 2y = 11$$

6. Solve the following linear system by **elimination**.

$$3x - 2y = -8$$

$$3y - 21 = 9x$$

7. If you are using elimination to solve a linear system of equations describe how you would decide whether to add or subtract the two equations.
8. The solution to a system of linear equations is (2,5). If each equation is multiplied by 3 to produce a new system, is the solution to the equation (2,5), (6,15), or some other ordered pair? Explain your answer fully.
9. A parking lot contained 102 vehicles (cars and buses). Each car was charged \$3 and each bus \$10. The total revenue was \$418. How many buses were on the lot? **SOLVE!!!!**
10. For the following word problems write a system of equations to express the problem. **DO NOT SOLVE THE PROBLEM!!!!** Do not forget to identify the variables.
- a. Find two numbers so that their sum divided by 4 is 12. The first number, if doubled and increased by 24 is equal to twice the other.
- b. How many kilograms of soap powder that costs \$0.80/kg should be mixed with soap powder that costs \$1.50 to make 20 kg of a mixture of soap powder that costs \$1.01/kg? [3]
11. Use substitution to solve the following system of equation.
- $$x + y + z = 3$$
- $$y = 4x$$
- $$z = -2x$$